

C5
cont.

32. (New) A cleaning system according to claim 31, including a contact charging member which supplies AC voltage to contact charge said electrophotographic photosensitive member.

REMARKS

The claims are 15, 22, 26, 27 and 29-32 with claims 15, 29 and 32 being independent. Claims 15, 22, 26 and 29 have been amended to resolve informalities in their format. Independent claims 15 and 29 have been amended to recite the structure of the charge transport layer to better define the intended invention.

Support for the amended claims is found, inter alia, on page 8, lines 15-18; page 11, lines 16-20; page 12, lines 1-10; page 13, lines 18, 20 and 21 and page 14, lines 5-16. Support for new claim 30 is found, inter alia, in Fig. 4.

Claims 15, 22, 26, 27 and 29 were rejected under Rule 112, first paragraph. In reply, Applicants have amended the claims to insert the term "electrophotographic", where appropriate, in accordance with the Examiner's suggestion. The Examiner objected to claim 29 on the ground that it should recite an exposure means and a developing means. Without necessarily agreeing or disagreeing and solely to expedite prosecution, claim 29 has been so amended.

The Examiner has argued that claims 15, 22, 26, 27 and 29 are not supported in the specification and present new matter on the ground that the disclosure of the charging member in contact with the photosensitive member is only of a charging roller which contacts the photosensitive member. That ground of objection is respectfully traversed.

The Examiner's attention is directed to page 1, line 17, which discloses a "charging means" and line 23, which discloses that a charge roller is the "charging means." Further on page 2, lines 10 and 16, there is a disclosure that a "charging means" can be employed of the AC contact type. Accordingly, the specification describes the presence of a charging means or member of the contact type.

Claims 15, 22, 26 and 27 were rejected as obvious over Oshiba '085 in view of Hanami '099. Claim 29 was rejected as obvious over either Oshiba '085 or Okado '702 in view of Ishihara '176 or Ohmori '706. The grounds of rejection are respectfully traversed.

Prior to addressing the grounds of rejection, Applicants wish to briefly review certain key features and advantages of the present claimed invention. As disclosed on pages 11-14, certain desired characteristics of a surface of an electrophotographic photosensitive member are recited. By exhibiting such characteristics the instant electrophotographic photosensitive member avoids the presence of smeared images or streaked images caused by wear of the electrophotographic photosensitive member. As noted on specification page 11, a blend of a first and second specific polycarbonate resin and fluoroplastic (particles) provide the transport layer with sufficient properties to maintain sufficient strength and viscosity values while resisting image flow. To achieve these features, a blend of polycarbonate resins is employed in which a strong, relatively high molecular weight polycarbonate resin is employed, together with a softer lower molecular weight polycarbonate resin in order to provide a surface layer with moderate abrasion ability. Accordingly, the surface of the charge transport layer includes a blend of

first and second polycarbonate resins which provide the desired resistance to the cleaning member as it scrapes residual toner.

Oshiba '085 discloses, inter alia, a first charge transport layer containing optionally a polycarbonate resin and a second charge transport layer also containing a binder resin, such as a polycarbonate resin. None of the charge transport layers of Oshiba include a blend of a first polycarbonate resin having a first molecular weight of 15,000 or less and a second polycarbonate resin having a molecular weight larger than that of the first polycarbonate resin. Accordingly, Oshiba is subject to the defects and deficiencies of prior photosensitive members having a charge transporting layer with a specific polycarbonate resin in its outer layer.

Okado '702 teaches a charge transport layer which can contain any one of a variety of binder resins and a protective layer over the charge transporting layer which can also contain any one of a plurality of binder resins. A protective layer can include fluorine particles. However, the charge transport layer of Okado fails to include a blend of a first polycarbonate resin having a molecular weight of 15,000 or less and a second polycarbonate resin having a molecular weight larger than that of the first polycarbonate resin.

The secondary references fail to remedy the defects and deficiencies of the primary references. They do not disclose a blend of polycarbonate resins of specific molecular weight ratio and a fluoroplastic resin in certain amounts.

Applicants submit that this Amendment should be entered because it places the case in allowable form and responds to specific objections raised by the Examiner.

Accordingly, based on the above amendments and arguments it is respectfully requested that the final rejection be withdrawn, the claims allowed and the case passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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APPENDIX

COPY OF PAPERS
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Application No. 09/428,453
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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

--15. (Twice Amended) A process unit comprising:

(a)[a] an electrophotographic photosensitive member for retaining a developer image thereon;

(b) a charging member in contact with said electrophotographic photosensitive member for charging the electrophotographic photosensitive member; and

(c) a cleaning member for cleaning a surface of said electrophotographic photosensitive member by scraping the surface of said electrophotographic photosensitive member,

wherein the surface of said electrophotographic photosensitive member produces scraped particles of said surface, said particles have an average particle diameter of $9\text{ }\mu\text{m}$ or less and a total weight of the scraped particles is 16 mg or more per a length of $2.8 \times 10^2\text{ mm}$ in a longitudinal direction of said electrophotographic photosensitive member, when the surface of said electrophotographic photosensitive member is scraped by said cleaning member without said electrophotographic photosensitive member retaining the developer image thereon under conditions in that said cleaning member abuts against said electrophotographic photosensitive member at an abutment pressure of 20-80 gf/cm and a [surface length in a lateral direction] movement distance of said

electrophotographic photosensitive member [scraped by said cleaning member] is 1.0 x 10⁶ mm, and

wherein said electrophotographic photosensitive member has a charge transport layer at a surface thereof, and said charge transport layer includes a blend of a first polycarbonate resin having a viscosity average molecular weight of 15,000 or less, a second polycarbonate resin having a molecular weight larger than that of said first polycarbonate resin, and fluoroplastic of not less than 1.0 parts by weight and not more than 10.0 parts by weight based on a total weight of said charge transport layer.

22. (Twice Amended) A process unit according to claim 15, wherein said electrophotographic photosensitive member [has] includes a charge generation layer [and a charge transport layer and the surface of said photosensitive member is the charge transport layer].

26. (Twice Amended) A process unit according to claim 15, wherein the cleaning member is shaped as a blade and the blade is in contact with the surface of said electrophotographic photosensitive member in a direction counter to a moving direction of the surface of said electrophotographic photosensitive member.

29. (Amended) An image forming apparatus comprising:

(a) [a] an electrophotographic photosensitive member which can retain a developer image thereon;

(b) a charging member in contact with said electrophotographic photosensitive member for charging said electrophotographic photosensitive member;

(c) [image forming means for forming the developer image on said photosensitive member] exposure means for exposing said electrophotographic photosensitive member;

(d) developing means for developing an electrostatic image formed on said electrophotographic photosensitive member with developer; and

[(d)] (e) a cleaning member for cleaning surface of said electrophotographic photosensitive member by scraping the surface of said electrophotographic photosensitive member,

wherein the surface of said electrophotographic photosensitive member produces scraped particles of said surface which have an average particle diameter of $9\ \mu\text{m}$ or less and a total weight of the scraped particles is 16 mg or more per a length of 2.8×10^2 mm in a longitudinal direction of said electrophotographic photosensitive member, when the surface of said electrophotographic photosensitive member is scraped by said cleaning member without said electrophotographic photosensitive member retaining the developer image thereon under conditions in that said cleaning member abut against said electrophotographic photosensitive member at an abutment pressure of 20 - 80 gf/cm and a [surface length in a lateral direction] movement distance of said electrophotographic photosensitive member [scraped by said cleaning member] is 1.0×10^6 mm, and

wherein said electrophotographic photosensitive member has a charge transport layer at a surface thereof, and said charge transport layer includes a blend of a first polycarbonate resin having a viscosity average molecular weight of 15,000 or less, a second polycarbonate resin having a molecular weight larger than that of said first polycarbonate resin, and fluoroplastic of not less than 1.0 parts by weight and not more than 10.0 parts by weight based on a total weight of said charge transport layer.

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